

# The wind turbine

## THE WIND TURBINE

### the 30-second history

Windmills were the pioneering technology of the twelfth century in Europe, harnessing the power of the wind to mechanically turn grinding machines to make flour and drive small machines. The idea that they might also generate energy had to wait – needless to say – until the invention of electricity. After that, it was the Scots who pioneered the idea, perhaps not surprisingly given the prodigious amount of wind that blows across Scotland. It was a Scottish teacher, James Blyth, who set up the first battery-charging wind turbine to power his holiday cottage in Maykirk, Kincardineshire, in 1887. Wind generators made of steel were a common sight on off-grid farms and remote places in the 1930s, particularly in the United States. There were also efforts to plug wind energy into the grid in places such as Yalta in the 1930s, Vermont in the 1940s, and the Orkneys in the 1950s. But fossil fuels continued to dominate until demand for renewable energy sources put wind energy back on the map, starting in the 1970s. Most modern commercial wind turbines are based on a Danish model, with three light-weight horizontal blades that can swivel to meet the wind at the best angle for harvesting this energy. A generator inside the main turbine body takes kinetic energy from the spinning drive shaft (to which the blades are attached) and turns it into electrical energy.

#### 3-SECOND SURVEY

In windy places, it makes sense to find a technology to make sure that the energy in the wind is put to good use.

#### 3-MINUTE OVERVIEW

Wind power cannot be enough on its own because many places have unreliable wind. In some places it blows too fiercely and the windmills may topple. Sometimes the wind doesn't blow at all. So wind power, important as it is – and it can boost the energy independence of communities and nations – does need to be balanced by other sources of energy, too.

#### RELATED TOPIC

See also  
**NUCLEAR POWER**  
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#### 3-SECOND BIOGRAPHIES

**JAMES BLYTH**  
1839–1906  
Scottish maths teacher who first generated energy from the wind

**PALMER COSSETT PUTNAM**  
1900–84  
American geologist responsible for the first American wind turbine, built in Vermont in 1941, which broke down after 1,000 hours

#### 30-SECOND TEXT

David Boyle

*Offshore wind farms, most recently built on floating rigs, harness higher offshore wind speeds and attract less opposition than onshore construction.*

